AMENDMENTS

IN THE CLAIMS:

1-27. (Canceled)

28. (Previously added) A transgenic rat whose genome comprises a first stably integrated transgenic nucleotide sequence encoding a human CD4, a second stably integrated transgenic nucleotide sequence encoding a human chemokine receptor and a third stably integrated transgenic nucleotide sequence encoding a polypeptide that interacts with an HIV sequence;

wherein the first, second and third transgenes are operably linked to a promoter to be preferentially expressed which results in HIV adhesion and infection of T-cells and/or macrophages.

29. (Previously added) The transgenic rat of claim 28, wherein the polypeptide encoded by the third transgene that interacts with an HIV sequence is a subunit of human elongation factor P-TEFb.

30. (Previously added) The transgenic rat of claim 28, wherein the polypeptide encoded by the third transgene that interacts with an HIV sequence is Cyclin T.

31. (Previously added) The transgenic rat of claim 28, wherein the rat is homozygous for human CD4.

32. (Previously added) The transgenic rat of claim 28, wherein the rat is homozygous for a human chemokine receptor.

33. (Previously added) The transgenic rat of claim 28, wherein the chemokine receptor is selected from the group consisting of: CCR3, CCR5, CCR2B, CXCR4, CXR3, CCR8, GPR15, STRL33, APJ, and LTB_4.

34. (Currently Amended) The transgenic rat of claim ~~34~~ 33, wherein the chemokine receptor is CCR5.

35. (Previously added) The transgenic rat of claim 29, wherein the chemokine receptor is CCR5.

36. (Currently amended) The transgenic rat of claim ~~30~~ 28, wherein the chemokine receptor is CCR5.

37. (Previously added) An isolated cell derived from the rat of Claim 28, wherein said isolated cell expresses said transgenes.

38. (Previously amended) The transgenic rat of claim 33, wherein the third transgene encodes a subunit of human elongation factor P-TEFb.

39. (Previously amended) The transgenic rat of claim 33, wherein the third transgene encodes Cyclin T.

40. - 48. (Canceled)

49. (Previously added) The transgenic rat of claim 29, wherein the chemokine receptor is CXCR4.

50. (Previously amended) The transgenic rat of claim 28, wherein the chemokine receptor is CXCR4.

51. (Previously amended) An isolated rat cell of claim 37, wherein second stably integrated nucleotide sequence encodes a human CCR5 chemokine receptor.

52. (Previously amended) An isolated rat cell of claim 37, wherein second stably integrated nucleotide sequence encodes a human CXCR4 chemokine receptor.

53. (Previously added) A method of producing a transgenic rat, comprising:

transforming a cell comprising a vector, the vector comprising a first transgene encoding a human CD4, a second transgene encoding a human chemokine receptor and a third transgene encoding a polypeptide that interacts with a HIV sequence, wherein the first, second and third transgenes are operably

linked to a promoter;

introducing the transformed cell into a blastocoel of a blastocyst;

positioning the modified blastocyst into a uterine horn of a pesudopregnant female rodent; and

allowing the female rodent to go to term, wherein offspring of the female rodent are screened for having the three transgenes.

54. (Previously amended) A method of claim 53, wherein the second transgene encoding a human chemokine receptor is CCR5 and the third transgene is Cyclin T.